

IN THE CLAIMS

1-10. (Canceled)

11. (Currently amended) A method for routing packets in a distributed network including a plurality of nodes, the nodes being coupled via links and the nodes having queues associated with the links, the method comprising the steps of:

injecting a packet flow into the distributed network at a corresponding source node, wherein the packet flow is stored in an overflow buffer of the source node in response to a height of at least a given queue of the source node exceeding a threshold;

equalizing the queues at each node of the distributed network wherein an integer number of packets in each queue is maintained;

pushing the packet flow in the distributed network such that packets are moved from a queue with a higher height to a queue with a lower height $[[,]]$ and based at least in part on respective energy reserves associated with affected nodes and an amount of energy required to move packets between the affected nodes, in a manner that substantially minimizes power dissipation at the affected nodes in order to prevent exhaustion of any energy reserve associated with an affected node; and

absorbing the packet flow at a corresponding sink node such that heights of queues at the sink node are set to zero;

wherein each queue has a potential function associated therewith, the potential function of a given queue being a function of the height of the given queue, and wherein packets are routed so as to minimize the sum of the potential functions of the queues of the nodes of the distributed network.

12. (Original) The method of claim 11, wherein the distributed network is a mobile ad-hoc network, and further wherein the node and at least one neighboring node communicate over a wireless link.

13. (Original) The method of claim 11, further comprising the step of a node receiving broadcast information from at least one neighboring node pertaining to the height of at least one queue of one neighboring node.

14. (Currently amended) The method of claim 11, wherein the injecting, equalizing, pushing and absorbing steps are performed for a number of rounds such that throughput requirements are substantially satisfied while substantially maximizing a time period prior to exhaustion of an energy reserve associated with any node of the distributed network.

15-25. (Canceled)